GRUMMAN
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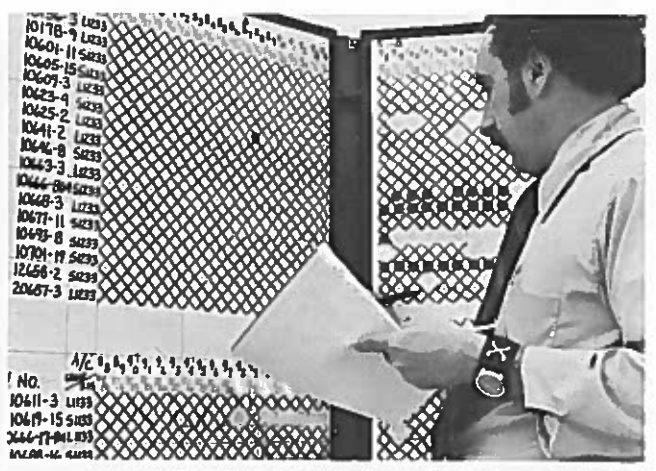
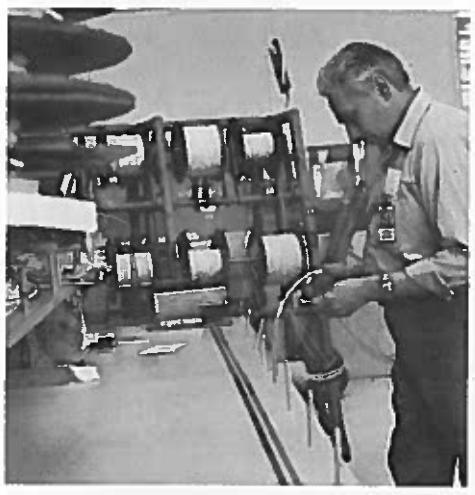
NAS MIRAMAR:

LAST STOP BEFORE DEPLOYMENT

(See page 4)





They're joining the family

Come June, Plant 43 and 44 of Grumman Aerospace in Great River will be in full operation. Located on Sunrise Highway, approximately 22 miles from the Bethpage complex and 30 miles from the Calverton facility, the two newly leased plants will be the new home for Avionics and Training Systems operations.

At present, there are only 600 people working in the plants but according to Frank Cassot, Director of Great River Material Operations, "there are many who are anxious to join us here, and by the end of June we expect to have 2,000 employed at Great River."

Headed by Vice President Ralph "Doc" Tripp, General Manager of Great River Operations, the newly leased facility will house the entire Training Systems operation as well as Avionics Manufacturing. The buildings, which have a total floor space of 225,000 square feet, will accommodate all the engineering, marketing, contracts and actual production associated with Training Systems products.

Material Operations, consisting of Requirements Planning, Stores, Purchasing, Receiving and Shipping, will be responsible for all the electronic parts and components required for the GAC Long Island operations. Manufacturing Operations will be responsible for the manufacture of electronic/avionic equipment for aircraft, support equipment, and spares.

The two new Grumman Aerospace plants, formerly Maxson Corp. buildings, are still undergoing many interior changes to accommodate the vast Avionic operations. "But thanks to a tremendous job by the Facilities Engineering and Maintenance people," says Casso, "the plants are really taking shape. Moving the various computer terminals and equipment needed to transact business is a tough job to accomplish without too many slip-ups but the Facilities crew has done a fantastic job."

In summing up his description of the new Facility, Cassot calls Plants 43 and 44 a "lean and mean operation." Besides that, he says that many have found the new plants a great place to work away from the hassles of city traffic and pressure.

Photos by Fred Annette

MATERIAL HANDLING

Special Plane News supplement
May 13, 1974

The National Safety Council estimates that on an average, industry moves 50 tons for each product-ton produced . . . and some industries move as high as 180 tons for each ton of the final product. An F-14 weighs about 54,000 pounds, therefore according to the industrial average, Grumman Aerospace moves approximately 2,700,000 lbs. of material per Tomcat produced—that's a large sum of manufactured material to be protected. "Protecting parts as they move along the assembly line has always been a problem in industry," says Joe Antonowicz, head of the Manufacturing Material Handling department. "Poor material handling and storage practices frequently cause substantial damage and spoilage which results in outright scrap or extensive re-work of the damaged part."

Production schedules are also affected by poor parts protection, says Bob Munch, Manufacturing administrator. "In these times of shortages, when a part is damaged, it is getting tougher to locate a replacement. And many times when we do locate it, the price has already risen a lot higher than the cost of the part it's replacing." The result: higher production costs and lost production time, says Munch.

Improper material handling can also cause personal injury. Bob Mills of Safety cites three such accidents attributed to improper practices in storage, packaging, stacking, and use of carts that occurred over the past six

"Preventing damage to both manufactured parts and fellow workers is a personal commitment that everyone in manufacturing has to make."

Over the past six months, most of us have experienced serious disruptions to our personal lives that have been caused by shortages of gasoline and energy. And when these shortages were accompanied by skyrocketing prices, we discovered how necessary it is to conserve those supplies critical to our personal needs. We had to find ways to reduce our automobile fuel consumption and to save electricity and fuel oil at home—and by turning off unnecessary lights and appliances and lowering thermostats, we became aware of how much of these commodities could be saved.

The situation is even more critical in industry. Materials of all types are in short supply, replacement orders are getting more and more difficult to fill, lead times are doubling, sometimes tripling, and prices are rising higher and higher. Without these basic industrial staples, of course, our ability to meet our aircraft delivery commitments could be seriously affected—and should we ever get into such a precarious position, all of us would be faced with very serious disruptions to our own lives and to those of our families as well. Damaged material and parts only compound this very critical situation.

We must commit ourselves to even greater applications of proper material handling and parts protection in our warehouses, during interplant transportation, on the production line, and in preparing these products for delivery to our customers.

All of us must play an active part in our material handling and parts protection program. Through this type of cooperation, we can all help keep production costs down and meet our production deadlines. I urge your cooperation—our very future may well be determined by how well we do this very important job.

Vice President - Bethpage Operations

months: When 20 aluminum skins slid off an "A" frame, a man sliced his hand while trying to stop the avalanche. The cut required six stitches . . . An "A" frame cart holding 6x15-foot skins was being pulled between plants and a gust of wind caused the skins to start slipping off the cart. When a worker tried to steady the load, he was pinned under the fallen skins, and broke his ankle . . . Five oblong 25-foot pipes, each weighing 1,000-pounds, were stored on a stationary flat. One pipe rolled off, and when the man arrived at the scene, the remaining four pipes rolled off the flat and crushed his toes.

The responsibility of protecting each manufactured part as it journeys down the production line lies with many people throughout the corporation: Industrial engineers write material handling procedures for a specific part; transportation drivers deliver totes and A-frames from plant-to-plant and department-to-department; and stockroom personnel store parts compactly without jeopardizing the safety of the material. And there are also persons in the shipping department who package the finished products in protective crates, foam-lined cartons, and plastic bags, according to military and company standards, and Quality Control inspectors. Workers on the production line, upon completing their task, package the product for intra- and interplant destinations according to the "Bible" — the Grumman Aerospace Material Handling Standards Manual. "In short, a large segment of Grumman Aerospace is responsible for seeing to it that each part is considered a masterpiece, and is treated as one," says Munch.

As each manufactured part goes through its transformation from raw material to a working piece of an aircraft, its monetary value increase — not because of inflation, but because of the actual man hours invested in it. "What may look like twisted tubing is in all reality the end results of hours of workmanship and its worth is quite possibly in the hundreds, even thousands, of dollars," says Antonowicz. "And as material progresses along the production route, more and more protection is needed."

Costs skyrocketing

The cost of protection is skyrocketing like everything else these days. Critical shortages of protective material is also a growing problem. For example, the price for a 50-lb. roll of 36 in. Kraft paper used between skins to prevent abrasions has quadrupled in price over the past year. "Even though prices are rising," says Antonowicz, "it is still cheaper to protect material than to risk damages."

Antonowicz admits that there are many problem s that can hinder the proper protection of a part as it moves along the production line, "but all these obstacles can be overcome if everyone is aware of the proper ways and means available to protect the product."

Training seminars

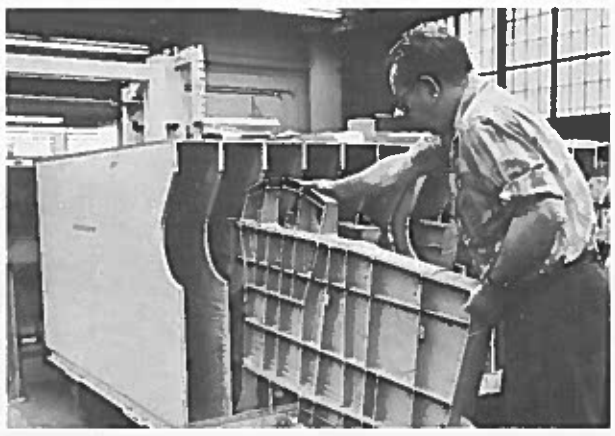
To date over 1,200 supervisors and leadmen in manufacturing have attended Corporate Training and Development seminars on Material Handling. "The main aim of the seminars is to re-affirm the vital importance of parts protection and its effects on production costs, deadlines, and safety," says Henry Carpenter of Corporate Training and Development. "The real thrust of the training session is aimed at positive ways of protecting each part a worker puts his or her time and skill into, and his and her responsibility to see to it that it travels to its next manufacturing stop without any damage.'

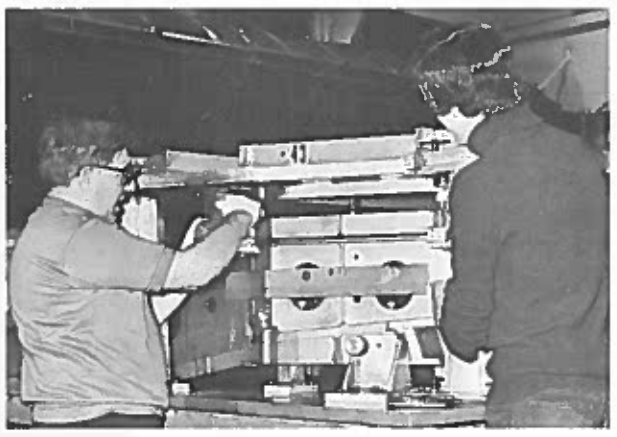
The audio-visual seminars consist of two parts: the first half stresses material handling procedures and organization; the second half through a slide presentation, shows positive ways to protect the product. The material handling seminars are focused on three key areas: detailed parts, storage, and final assembly parts protection.

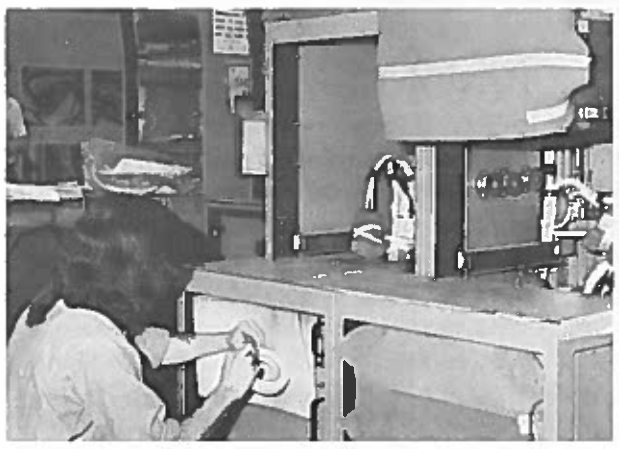
But even with the proper training and knowledge of proper parts protection problems still can arise along the production line. For instance, here are a few of the obstacles workers run into as they try to protect the product: "Assuming you provide for proper parts protection in your own department, how do you control material received from other areas that are improperly packaged?" "Just try and find a proper 'A' frame so a part doesn't hang over the sides. If we waited for the proper cart, the part would never be processed." Obtaining protective material requires ordering well in advance — sometimes as far as two or three months—and even then we still run short." The problems encountered are numerous, but many on the production line are coming up with their own solutions to improve the material handling operations.

A few industrious departments have set up recycling systems for "seemingly" scarce protection equipment. Brown kraft paper is salvaged along the production route and re-used whenever possible. Corrugated cartons in several detail-part production centers are also living a longer life through re-cycling. A few workers have tried desperately to clean and re-use protective plastic caps for wire connectors by running them through washing machines at home. It didn't work — but they are still experimenting with new ideas.

People in manufacturing and transportation are getting together for search-and-find missions for "missing" handling equipment. And they are finding them . . . being used idlely for







Proper Material Handling helps

- **lower production costs**
- **meet production schedules**
- **prevent personal injury**

Layout by Bud Parke

Photos by Marie Trimborn and Fred Annette

storage, or in some cases refuse containers. They are now being returned to their proper use: the protection of material as it travels from plant-to-plant and department-to-department along the production route.

When a material handling violation is detected, workers should report it to their area material handling supervisor or foreman. As one foreman said, "We all have to work together. I don't call up the other department and give 'em hell; both of us try to work out a better way . . . things run a lot smoother for both parties that way."

Suggestions are always welcomed in business in order to move ahead and material handling operations are no different. If you have a better, more efficient way to protect the products we make, why not share it with others—and send in your idea to the Corporate Suggestion office in Plant 5.

"Preventing damage to both manufactured parts and fellow workers is a personal commitment that everyone in manufacturing has to make," says Antonowicz. "If we do, production costs can be kept down, and the planes will be flying over the fence on time—which is what we're in business to do."

Protective Checklist

• Is material stored in a safe manner? Is it stacked securely to prevent toppling? Are round items blocked to prevent rolling? Are edges of mezzanines and platforms clear of items that could be knocked off? Are hazardous materials stored in approved containers and areas?

• Do materials that have critical surface finishes have adequate protection against scratches?

• Are delicate parts cushioned to prevent damage in transit or storage? (For example, parts with critical threads, glass and edge members for stainless steel panels.)

• When thin material is stored or transported on edge, have precautions been taken to keep it from buckling?

• Are items retained inside boundaries of racks, bins, skids, and dollies and not protruding into aisles or work areas?

• Is high cost electronic equipment being stored and transported in the approved manner?

• Has material that is subject to damage from dirt, moisture, fingerprints, temperature extremes or sunlight been adequately protected?

• Are items to be moved by Traffic Department vehicles placed in designated "in and out" area and identified with a move tag?

Grumman reports boost in sales, earnings in '74

Grumman informed the financial community a week-and-a-half ago that it is continuing its rebound from the near disastrous loss on the F-14 two years ago. And the business upswing is gaining more credibility with each succeeding quarterly earnings report — that despite what Grumman Corporation President Jack Bierwirth termed a "profits squeeze" on many of its commercial products.

On May 2, Grumman Corporation reported consolidated net earnings for the first three months of 1974 of $8,318,126, equal to $1.22 per share, on sales and other income of $255,455, 509. An extraordinary item of $3,600, 000, representing a tax loss carryforward, accounted for $.53 per share of those consolidated earnings.

In 1972, mainly as the result of a $205 million loss—that became $220 million early in '73—on the F-14 contract, Grumman Corporation earnings plummeted to minus $10.26 per share. In 1973, partly with the aid of a tax loss carryforward, the corporation bounced back to report earnings of $4.15 per share, and now, with the report on the first three months' business in '74, that resurgence is continuing.

And it was the F-14 Tomcat that led the continuing upswing in sales as increased deliveries of the Navy air-superiority fighter and the E-2C Hawkeye helped Grumman Aerospace account for $62 million of the approximately $70 million jump in sales over the same quarter in '73. That was a 38 percent rise in sales for Grumman Corporation, which was accompanied by a 51 percent boost in income before extraordinary item (tax loss carryforward).

Sparked by Aerospace

Although the business resurgence sparked by Aerospace has been substantial, continued good financial health is still very dependent upon how well we perform on the F-14 contract, said Bierwirth. "Declaring a loss was only a part of the solution to our dilemma two years ago—continuing to live within the declared bounds of that loss gains in importance every day. If we exceed our stated loss by even a small percentage it could have a very negative effect on profits. If we can somehow deliver the remaining F-14s through Lot V at a cost less than we had anticipated originally, even by a small percentage, that could have a very positive effect on our net earnings for the year. What I'm saying, of course, is that we can't afford to let up, even though our first quarter report looks and is good."

Commercial sales up

Commercial sales throughout Grumman Corporation showed a promising increase too—29 percent over the same period in '72—but the profits squeeze described by Bierwirth, which resulted from product price controls and increased costs of materials, prevented earnings from keeping pace with sales. Recently announced price increases on some of the corporation's commercial products should help to return commercial profits to a "respectable" level later in the year, said Bierwirth.

In commenting further on the earnings report and business in general, Bierwirth pointed out that Grumman Allied sales of aluminum canoes and truck bodies keep increasing, as do Pearson Yachts products. "In fact," said Bierwirth, "we're at full capacity on canoes, truck bodies, and yachts and we're selling them as fast as we're making them. Grumman Allied's rate of growth in their foundry division, yachts, canoes, and trucks bodies is running ahead of the economy.

"Through Grumman International, Allied is setting up distributorships for yachts and sailboats in nine European cities and in Bermuda. Grumman canoes are already famous in this country and we're looking forward to the day when that holds true for the rest of the world as well."

As of April 30, Grumman Allied Industries became a wholly-owned subsidiary of Grumman Corporation. Grumman Corporation had owned approximately 81 percent of the Allied stock. The former minority shareholders, about 19 percent of the total, will receive one share of $.80 Convertible Preferred Stock of Grumman Corporation in exchange for each share of Grumman Allied common stock they own.

Building for future

By acquiring the remainder of Grumman Allied stock, thereby making it a wholly-owned subsidiary , Grumman Corporation will be able to "'provide the funds that Grumman Allied needs to support its current rate of growth," said Bierwirth.

In Grumman Data Systems, Bierwirth pointed out that "We're putting money and talent into new programs; we're building a strong business base now. It's an investment in development, which in a sense is an investment in the future. And the growth rate of GDS shows it."

plane GRUMMAN news

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Brief Navy on maintenance data systems

Can the Navy benefit from the experience of commercial airlines in such critical areas as computerized maintenance, inventory control, and reliability engineering? Vic Middlebrook, vice president of Aero Data Inc., thinks so. Recently, Middlebrook returned from a five-day seminar-workshop that Aero Data—a subsidiary of Grumman Data Systems — presented on airline reliability and maintenance data systems to a Navy audience on the West Coast. Earlier this year, Aero Data made the same presentation to Atlanta Fleet representatives, and, according to Middlebrook, both workshops were a hit with the more than 200 top- and middle-management maintenance men from the Navy who attended the sessions.

Aero Data specializes in offering a systems approach to various commercial airlines in computerized maintenance, inventory control, reliability engineering, cargo control, passenger reservations, and financial analysis, among others. During these educational seminars, the Aero Data team—which included Connie Blyseth of GDS and Joe Fragola of Grumman Aerospace—reviewed airline practices to demonstrate how the Navy might increase readiness and reduce maintenance costs. Included in the program were sessions on safety, reliability, maintenance, and material management.

Avoiding pitfalls

How do you avoid pitfalls when setting up maintenance systems? For a starter, "solicit the viewpoint of maintenance management—after all, they're in a better position to understand the system requirements;" "talk to people at the operating level (mechanics and inspectors)—they're involved in performing the work and understand the big picture"; and "be concerned about system payoff—not all computer systems are good." Those are only three of the obstacles to avoid—there are many others just as important, says Middlebrook.

What did the Navy think of the presentation? According to Middlebrook, a little more than half of the participants rated the workshops "excellent", and nearly that many rated them "good." That's a pretty tough grade to beat.

Name eight to new posts

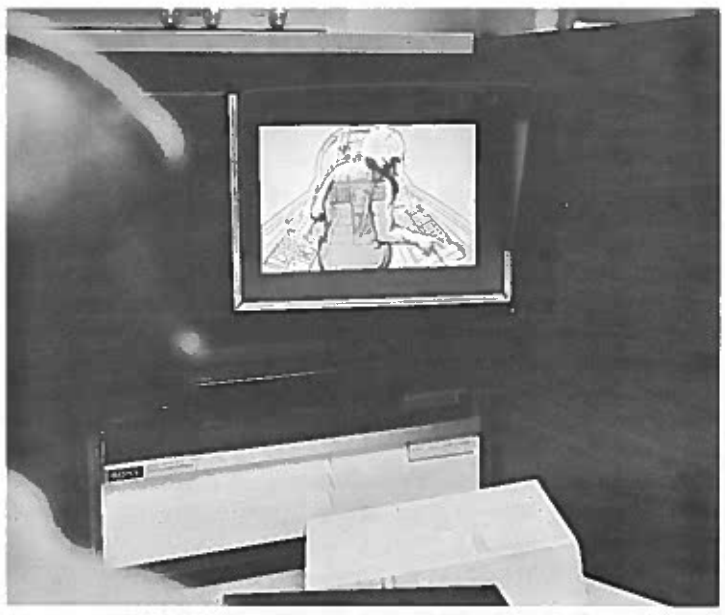
There have been a number of appointments in Grumman Aerospace over the past couple of months and one of them — Emerson Fawkes as special assistant to the President for Operational Readiness—points up the fact that the company is preparing for a very important second half of the year when seven Navy squadrons flying Grumman aircraft will go to sea. Among those scheduled for carrier duty are the first two F-14 squadrons, three EA-6B squadrons, and the initial E-2C and A-6E squadrons.

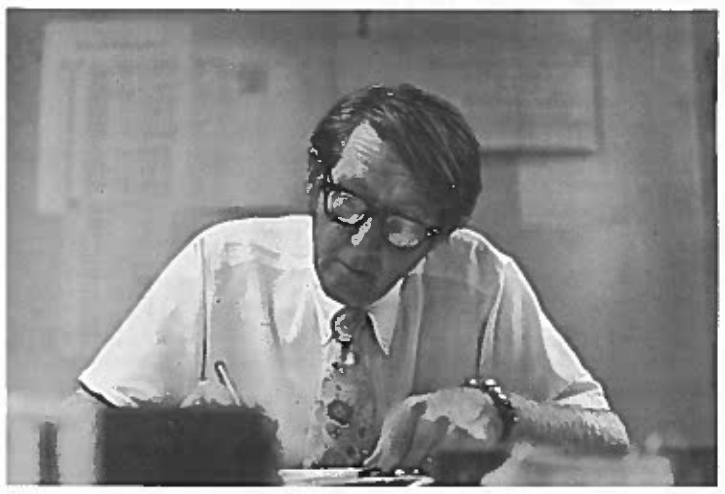
Other appointments in Aerospace include: Al Canedo, director of Stock Control, Manufacturing Operations; Charles (Chuck) Briggs, Space Programs manager, Washington office; Bob Thomas, F-14 Program manager for Manufacturing Operations; Frank Dini, manager of Material Handling Systems; Joe Menniti, manager for Support Requirements, Customer Requirements; Bob Foster, deputy director of Personnel; and Frank Maslak, manager of Wage and Salary Administration, Personnel.

Distribute new avionics handbook

Manufacturing Operations introduced a new Avionic Handbook last Monday, May 6, with some 3,000 copies distributed to the production shops, Manufacturing Engineering, Liaison Engineering, Inspection, Training and Development, Manufacturing Planning and Estimating, and labor-only vendors. Copies were also sent to the Navy office in Bethpage and to various members of Grumman Aerospace corporate managemnt.

Vice President Tom Johnson, who sponsored the program in Manufacturing Operations, believes that the comprehensive handbook will be an invaluable aid as a reference document for everyone engaged in the planning, fabrication, and installation of avionic and electrical systems. Johnson also saluted the producers of the document, Electrical Tooling and Methods Engineering and Manufacturing Operations Proposals Publications. Extra copies of the handbook are available through Augie Walsky's office, Ext. 3477.





NAS MIRAMAR

Depending on the geographic and population differences, the name "Fightertown" can mean many things to many places. At Miramar, some 13 miles north of San Diego in southern California, it is the nickname for the home of the Navy's fighter aircraft. It is also one of the world's most modern, innovative and sophisticated training facilities where the planes and the people who fly them come for grooming and gearing up for deployment to the Pacific Fleet. Among the newest additions to the Fightertown community—and which has inspired some unique training facilities—is the F-14, now being primed for active duty, melded with squadrons, tested, put through its paces, brought up to deployment configuration, and in all ways being readied for its debut at sea later this year. In short, as far as the F-14's entry into the Navy is concerned, Miramar is where most of the action is today.

Navy jet fighters of all varieties buzz over Miramar in seemingly constant succession, day and night. For the Tomcats, it's a get-acquainted program for the planes and their first squadrons, the handpicked cadres of experienced aviators selected for VF-1 and VF-2. Each squadron operates 12 aircraft with 35 officers and 250 enlisted men. In VF-1, Cdr. Edward J. Thaubald is commanding officer and Cdr. Dennis S. Strole is executive officer; in VF-2, Cdr. J. A. Brantuas is commanding officer and Cdr. J. W. Taylor is executive officer.

In addition, there is VF-124, the traditional training command for fleet replacement pilots which in 1970 was designated to help support the cadre of officers responsible for introducing the F-14 and preparing aircrewmen and maintenance crews to man and ready the planes for fleet environments. VF-124 has 125 officers and 1,100 enlisted men with Cdr. Pete Kellaway as commanding officer and Cdr. Rube Schaffer as executive officer.

Assisting in the transitioning of the Tomcats from the factory to the fleet is the 110-man Grumman Aerospace field service office at Miramar headed by Frank Riley, a seasoned field service pro who has been with Grumman for 26 years. The field office provides a broad variety of on-site services to the Navy, offers a cache of talent and expertise and serves as the direct communication link with Grumman in New York.

Riley joined the company in 1942 and has been in field service work for 21 of those years. He says his first field service assignment was at Quonset Point, R.I., and during the Korean War he spent two years overseas where he covered all Grumman products. He was assigned to Moffet Field in northern California for eight years where he worked with the F-9 series aircraft and also participated in the introduction of the F-11F to the fleet. He spent a year on Guam and later in Japan where he set up radar shops to support the E-1B, then spent seven years at North Island in the San Diego area where he helped introduce the E-2 to the fleet. In 1969, he came to Miramar to set up Grumman's support effort.

Under Riley, the many-sided field service office is divided into two principal functions: one deals with "people-related" matters and is headed by Clyde Cain, and the other, Integrated Logistics Support (ILS) dealing with "hard commodities," is headed by Charlie Young.

Cain joined the company in 1960 as a technician on the A-6 program, followed by field service assignments at Oceana, Va., and on cruises to the Pacific and the Mediterranean. Prior to coming to Miramar in 1972, he worked on the F-14 program in Bethpage and Calverton.

Young joined Grumman in 1967 after serving 25 years in the Navy, primarily as a Naval flight officer and as a wing maintenance officer in airborne early warning aircraft. He worked initially with the E-2 program, then joined the F-14 program when he became involved with writing such things as the carrier suitability portion of the F-14 proposal, narrating the first maintenance mock-up review and initiating the maintenance support planning for Miramar. He transferred to Miramar in 1971.

Riley likes to point out that several years ago during the Board of Inspection and Survey trials for the E-2A at North Island, Young was a lieutenant commander in charge of insuring for the Navy that the planes did the jobs they were supposed to do. "He was very helpful to us in those days, just as he is today," says Riley. "Now he has the benefit of having been on both the receiving end with the Navy and the delivery end with Grumman."

In addition, the field service office is organized with numerous subdivisions and leaders with specific responsibilities. For example, there's Mason Mosley with logistics support and Harry Wilson with the publications group which is setting up a publication library at Miramar. There are people such as Larry O'Brien working in the avionics area engaged in such things as validating test programs and F-14 equipment that goes aboard the carrier before deployment. In the technical area, the six men who are the primary liaisons with the squadrons are the technical representatives for VF-1 and VF-2; Ed Stepnosoki and Joe McArdle with the air frames; Lou Marrero and Gayle Quebedeaux with the weapons system; and Charlie Askins and Russ Noel with the computers, programmers and electrical systems. The six tech reps will accompany the two squadrons when they deploy aboard the USS Enterprise this year.

"A tech rep is basically a reporter," Ed Stepnoski says. "On cruises, for example, we are expected to find problems that haven't been apparent before or observe how well the aircraft holds up on a carrier or find parts that might be failing. At the same time, we keep the company informed and report on why certain things are happening, then give our recommendations for what we think can be done to prevent failures in the future."

Another of the field site's primary responsibilities is that of helping the Navy maintenance personnel keep current with rapidly advancing and changing technology. "The Tomcat is an advanced-state-of-the-art aircraft and one of the most technologically creative and complex fighters ever assembled," says Riley. "So part of our job here is to help bring the Navy's maintenance men—both the officers and the enlisted men—up to speed with the current technology."

One reason for the emphasis on training and technology is the number of "firsts" the F-14 introduces, including:

- the first fighter with an inertial navigation system.
- the first fighter with an integrated weapons system.
- the first fighter with a multiple target tracking capability.

Moreover, the Tomcat squadrons are the first fighter squadrons to receive "factory" training from the contractor (Grumman); and the Air Crew Training (ACT) program and the Fleet Replacement Aircraft Maintenance Personnel (FRAMP) program are the first of their kind for which the contractor (Grumman) has been asked to write the training syllabus.

Along with the complex systems, the depth of technical expertise and the day-to-day exchanges of information, ideas and materials between Grumman and the Navy, there's an easy-going, informal first-name atmosphere that keeps an otherwise tense time relaxed. Enthusiasm for the Tomcat is readily apparent and Miramar — partly because of the advances the F-14 brings—is clearly one of the U.S.'s most up-to-date Naval facilities, a kind of proving

ground which embodies the past, present and future and one which would have bedazzled Edward Scripp —the San Diego pioneer who in 1890 purchased the land for a ranch on which Miramar is now located.

Situated eight miles inland from the Pacific Ocean, the Scripp property is on a high mesa surrounded by gently rolling hills and scenic semi-tropical valleys, and characterized by westerly winds, a lack of coastal fog and a temperature variation of less than 14 degrees between winter and summer. Scripp interpreted the Spanish name Miramar as "an area from which there is a view of the sea from every vantage point." He was also influenced to name his ranch Miramar from memories of a visit to a Gothic castle near Trieste which had been the residence of Maximilian of Mexico and his wife Charlotte. Miramar is also the name of a point of land on the island of Mallorca, the birthplace of Father Junipero Serra who established 21 missions in California, including the San Diego Mission de Alcala during the 18th century.

In 1917, the U.S. government purchased the land for Camp Kearney, an army infantry training center named for Gen. Stephen W. Kearney who helped wrestle the southwest from Mexico and establish civil government in California. During World War I, Camp Kearney was a "tent city" housing several thousand infantrymen and 1,200 army horses and mules.

Between the two world wars the site served a variety of military functions including a lighter-than-air aircraft and target bombing range. During World War II, part of the land was used as an auxiliary air station for the Naval Air Station at North Island while another part became the Marine Corps Air Depot. In 1946, the two activities were combined and the following year, the Marines moved to nearby El Toro and Miramar became the Naval Auxiliary Air Station.

It wasn't until 1951 and the coming of the jet age that government funds were appropriated for Miramar as a master jet air station along with major construction and rehabilitation efforts and the designation of the U.S. Naval Air Station Miramar. In 1961, under a new concept, Miramar became the support base and home station for fighter squadrons.

Today, Miramar occupies 23,000 acres and serves as home base for 21 squadrons, three attack carrier air wings, one carrier air wing, one readiness carrier airborne early warning squadron, six carrier airborne early warning squadrons, one light photographic squadron, one fleet composite squadron, two reserve fighter squadrons, and the Navy fighter weapons school. In addition, there is a Marine Corps reserve tank training center, a radar air traffic control center, a Naval air training detachment, an aviation physiology training unit and a Naval drug rehabilitation center.

The principal training command at Miramar, of course, is VF-124 which is the only F-14 Replacement Air Group (RAG) at present. "All pilots, Naval flight officers and maintenance personnel come through the RAG for training on the F-14," explains Cdr. Pete Kellaway, commanding officer. "VF-1 and VF-2 completed the RAG portions of their training last summer and we are now working with the two newer Tomcat squadrons, VF-14 and VF-32. We try to cover every topic or situation in lectures first, such as intercept work, theory geometry and the various types of targets you might encounter, like low-altitude high-speed or high-speed high-altitude targets. After that, the squadron personnel apply their classroom training to actual performance in the aircraft.'

Cdr. Kellaway, a native of Galesburg, Ill., has been a Naval aviator since 1955 and has subsequently served in many squadron assignments, received a

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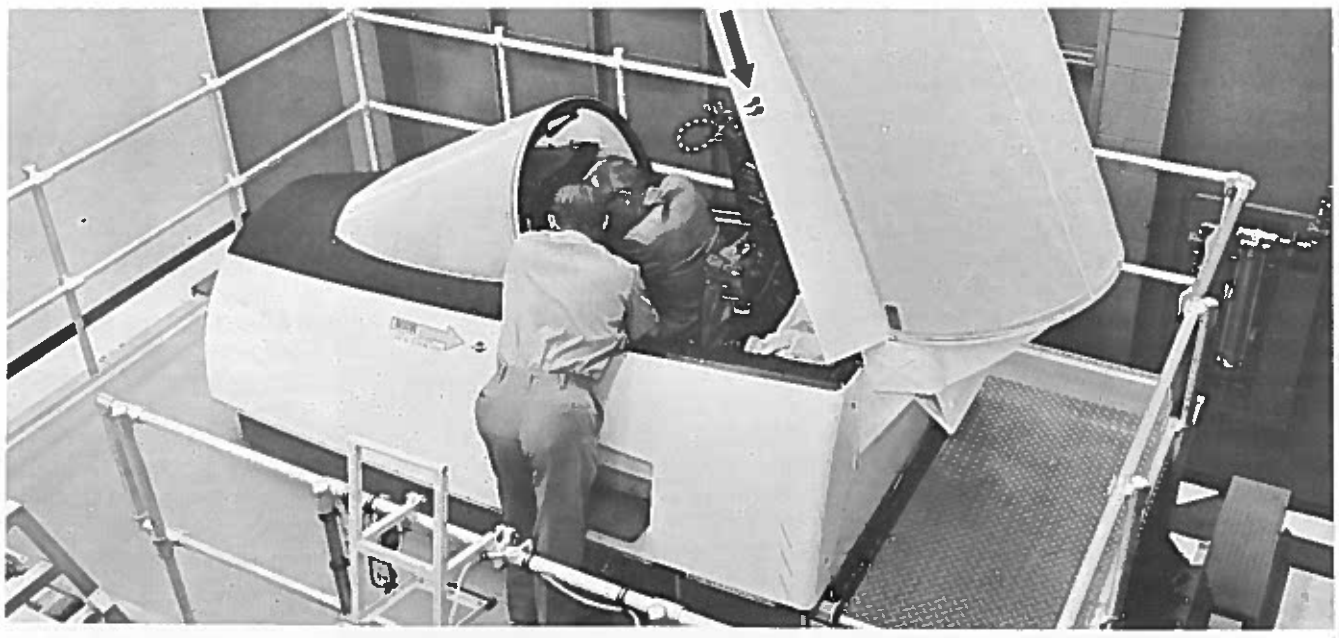

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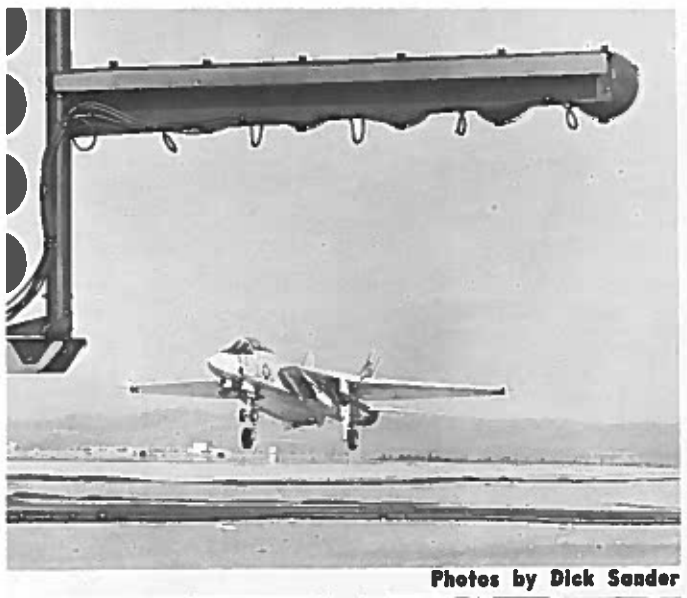
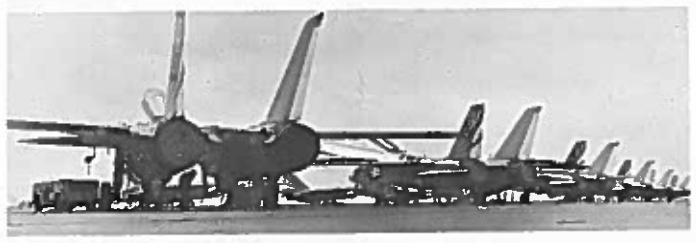


Photos by Dick Sander



BS degree from the Naval Postgraduate School at Monterey, Calif., served on cruises aboard the USS Essex, USS Midway, USS Oriskany and the USS Ranger, and attended the Armed Forces Staff College at Norfolk, Va. Prior to his joining VF-124, he served as F-14 project officer on COMNAVAIRPAC's staff.

In VF-124, pilots and NFOs first work with the operational flight trainers and mission trainers which are enclosed replicas of F-14 cockpits on hydraulically driven mobile platforms. Then the air crews join the training command where they complete 75-80 hours of actual flying.

The experience level of the different squadrons varies, but a typical air crew cadre—such as those in VF-14 and VF-32—consists of 14 crews, seven with more than two previous cruises, four with at least one previous cruise and three who will join the squadron from the flight training command.

The academic portion of the pilot and NFO training begins with familiarization of the aircraft and the various systems which are conducted in a unique Miramar facility created for the F-14 and appropriately named the Academic Center. A series of carpeted, soundproofed instruction rooms, equipped with video-tape and sound-slide self-study consoles and instant-response computer-controlled student evaluation monitors, are designed for students to learn at their own rates of speed in an atmosphere tailored for concentrated study.

Some titles from the extensive video tape library include: Air Combat Maneuvering; Parachute Release and Rescue; Flight Deck Safety; Hook Down, Wheels Down; Basic Aerodynamics; Night Carrier Landings; Basic Turbine Theory; Digital Computer Introduction; Espionage Warfare; Tactical Air Power; Inertial Navigation; F-14 Wing Sweep System; Pilot Vertigo; and F-14 High-angle of Attack. Some of the sound-slide programs are: Tactical Information Display; Alighting Gear; F-14 Emergency Procedures; and the Air Inlet Control System.

"In all previous programs, the Navy has prepared its own air crew training syllabus," says Chuck Guernsey, a retired Navy NFO who has been with Grumman since 1971 and who is now working with the F-14 Instructional System Development (ISD) group at Miramar. "Not so today. Grumman and Hughes have both been asked to prepare training programs for the F-14. Thus, we now have our own publication and script writers and illustrators who prepare the material, slides and video tapes."

The scripts are prepared by what Guernsey calls the "systems approach." "We only tell the students things they need to know to fly the planes safely," he explains. "If he can control it from the cockpit, we tell him about a particular system; otherwise we don't."

One video tape, he continues, deals with the stall spin and shows Chief Test Pilot Chuck Sewell flying an F-14 in a tail spin. Sewell also narrates the film. For the take-off and landing topics, Guernsey says they put a camera in the plane over the pilot's left shoulder so students can actually see the F-14 land as the pilot sees it.

When the air crews have completed the academic portions of their training, they are ready to put their knowledge to practical application. How is Miramar as a training area? Is there enough air space? "We have at least as much and probably more air space here than at any other Naval base in the U.S.," says Kellaway. "The Navy used to do a lot of test flying over the desert, but now when we fly over land we have to have permission and we must generally remain within the limits of specified altitudes. Therefore, we now do most of our practice flying over the ocean where we are able to cover anything from the deck to 25,000 feet and don't have to worry about staying within any altitude limitations."

Training of the F-14 maintenance personnel is done in three principal steps: first is indoctrination at the Fleet Replacement Aircraft Maintenance Personnel (FRAMP) facility; next, academic training at the Naval Aviation Maintenance Training (NAMT) building, a new facility used solely for F-14 training; and then back to FRAMP where crewmen get hands-on or on-the-job training on actual aircraft.

"This is the first time an operational aircraft has been assigned to FRAMP for maintenance training," says Kellaway. "In fact, the first F-14 that was delivered to Miramar was put into FRAMP for training purposes."

The amount of time each student spends in maintenance training depends on what his ultimate assignment will be. A plane captain, for example, may not require as much time in training as, say, a man who works with radar. All told, most men spend about six months in the RAG, then join a squadron maintenance department for on-the-job training.

Understandably, the NAMT building is one of the principal attractions for visitors to Miramar these days. Located near the flight line, the NAMT building is actually a detachment of the NAMT command headquartered at Memphis, Tenn. It contains numerous classrooms and actual-size subsystem mockups and trainers, 13 of which have been built by Grumman. As modifications are incorporated into the design of the F-14, these trainers are also brought up to date.

Included in the NAMT building are a navigational system display with a complete VAST station; a flight control system which simulates every control on the F-14, has a swing-wing with moveable flaps and an exposed wing layout for visual display and study; an armament trainer with pylons for loading and unloading any armament the F-14 can carry; a cockpit trainer primarily for studying the plane's environmental escape system; a missile cooling system trainer; a hydraulic system trainer; an air inlet mockup; a fuel system cutaway with fuel cells showing how the fuel flows through the aircraft; and a jet engine which gets completely disassembled and reassembled during a training cycle.

"During the six-month period from July 1 to December 31 last year," says Lcdr. Bob Jurgens, officer in charge of the Miramar NAMT facility, "we trained 2,235 students in this building alone with a total of 196,942 hours of instruction."

The hands-on portion of the training is conducted by the VF-124 maintenance group, headed by Cdr. Mike Iverson, where the work has practical as well as educational value. For example, Iverson points out, his group is responsible for Tomcats Numbers 21 through 38. A program is now under way at Miramar, similar to the one at Point Mugu where the planes of VF-1 and VF-2 are being updated for deployment, in which VF-124's planes are also receving the same configuration changes by the Navy's maintenance crews.

"When new men come into this part of their training we instill in them that they are technicians and that a minor mistake on their part can conceivably down an airplane," says Iverson. "We stress that they must recognize that this is a real flying machine, a fine piece of machinery, and that they must develop the necessary sophistication to work on it."

Training or transitioning activities for the F-14 are in progress in numerous locations at Miramar. In the avionics area, for instance, Ed Mastaglio says the work he is doing is "for real, not for training." Mastaglio is actually assigned to Point Mugu and is on temporary assignment to Miramar along with

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Helping hand to handicapped pays off at Sterling facility

STERLING, VA.—A slim, almost intense young man driving an electric cart approaches the freight elevator at Plant 58, the Grumman Aerospace machining facility here, jumps off the cart to open the freight doors, drives the cart into the cage, proceeds to the second floor to drop off some cutting tools that need sharpening, picks up those that are finished, returns to the main floor, and then drives back to the tool crib to help store and set these very valuable—and very heavy—cutters. A year ago, that same drama might have unfolded a hundred times, but without Ricky Harris. Ricky Harris is retarded.

In all, there are three mentally handicapped men, one a Vietnam vet who became disabled in an auto accident, working at Sterling. In addition to Ricky Harris, Ben Howard is a deburrer and maintenance helper and Paul Garner is a chip bailer and operates a fork lift for certain tasks.

"It happened almost by accident," said John Otterstedt, general manager of the facility, in describing how the three were hired. "About a year ago we were desperately looking for people to fill a number of job openings we had but we weren't having too much success. I checked out all possible sources . . . that's why I called the Fairfax Op Shop—a workshop that provides work training for adults with physical and mental disabilities."

That was the start. Following that, Ted Brosnan, a transplanted New Yorker who works as a rehabilitation counselor at the Op Shop, visited Otterstedt at Plant 58. They walked around the shop, reviewing the various tasks—machine and manual—to try and find any areas in which the handicapped could be employed. They discovered that while some of these tasks were at the low threshold of the non-handicapped person, they would be well within the capability of the mentally handicapped worker.

Job analysis

So Otterstedt and Brosnan proceeded to analyze each job in the shop. They tried to restructure the jobs to increase motivation for both handicapped and non handicapped workers.

Even after the decision to go-ahead and hire the first handicapped workers Otterstedt admits to initial feelings of apprehension. "Before our first handicapped people came on board we had a meeting with our supervisors to discuss our new fellow workers. And during our chat we determined that all of us have certain basic physical and emotional needs—recognition, for instance. So we all determined that it was up to us to find out where these handicapped people had special talents.

"Our supervisors and the rest of our people at Sterling really made this success possible. For instance, Glenn Barnhart, a leadman in our tool crib, spent a lot of time teaching Ricky Harris. Now Ricky picks up cutting tools from around the plant, returns them to the tool crib, helps prepare new orders for the day's work, even helps set cutters in tool holders."

And for those handicapped young people from Fairfax Opportunities Unlimited whom he couldn't hire, Otterstedt and administrative aide Lorrie Hourihan, and Brosnan set up a one-day training seminar to acquaint them with such things as job interviews, how to fill out applications, etc., to give them some practical experience about applying for a job. The session included a question-and-answer discussion with the three young men presently employed at Plant 58 who gave them further insight into job experiences, and before they left that day Otterstedt gave them a "pep" talk on employment, encouraging them not to give up trying.

Pay economic return

Has the hiring program been paying off? Listen to Otterstedt: "This isn't a charity organization, and we don't treat it like one. We produce large, expensive machined parts for the F-14, A-6E, EA-6B, and F-111 programs and we're conscious of how important it is for us to produce quality products, on time and within costs. These young people are performing and getting paid for it, the same pay as anyone else would get if they were performing these same tasks.

"We go slowly into new tasks for these young men, and then only after much training. We've discovered that we all tend to put shackles on handicapped people. But they have tremendous drive . . . and if you let them assume more responsibility, it's often very satisfying to them and to everyone else when they achieve. Each of these handicapped people performs these tasks willingly, well, and on a steady basis day-after-day. They pay Grumman an economic return.

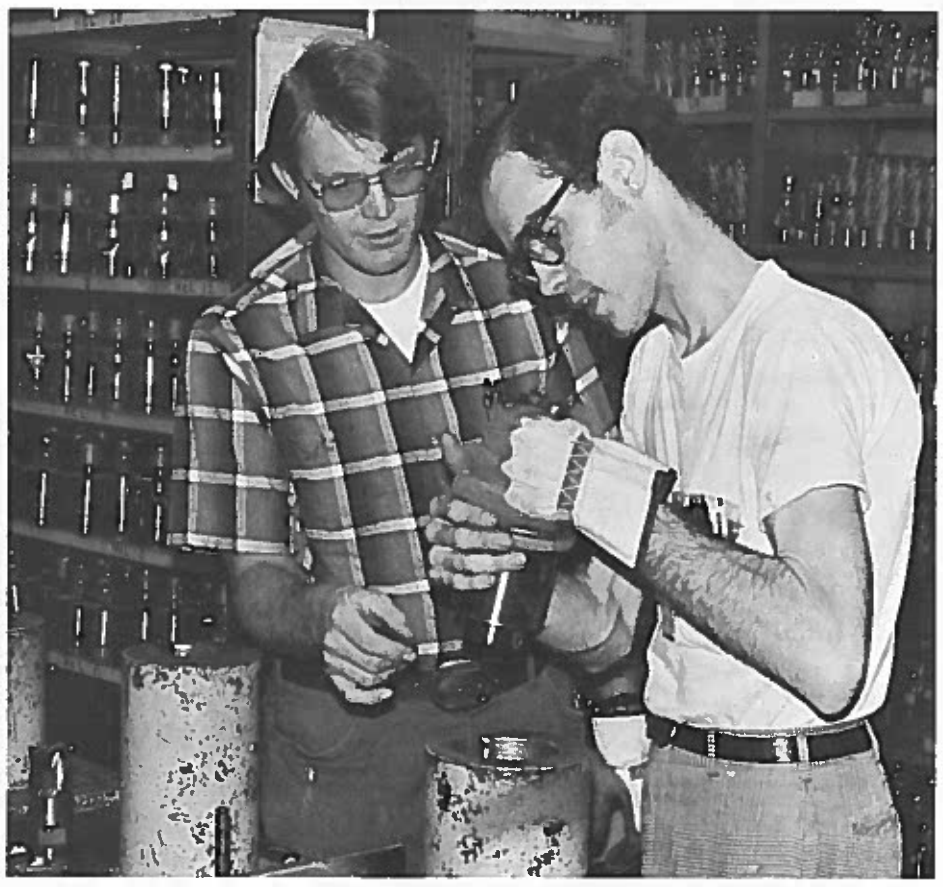
"We feel we've just scratched the surface. They're just looking for the opportunity to show that they can do a day's work, and within their scope they can do a tremendous job. Can you ask for anything more?"

Ted Brosnan, the Op Shop representative, grew up in Levittown, Long Island, a few miles south of Grumman Aerospace's main manufacturing complex. He has a personal stake in rehabilitation programs—his father suffered a stroke while he was in college and has been unable to work since. That caused Ted to become interested in handicapped people, and following college he decided to pursue full-time a career in helping physically and mentally handicapped people acquire work training and full-time jobs. He believes that rehabilitation professionals "must move out into the community so as to assess the needs of business and industry."

How does Brosnan appraise the program? "John Otterstedt made it a success. He's so flexible, so willing to turn some things around to make it happen. We realize that John's job is to help Grumman make a profit; ours is to help rehabilitate people. Together I think we can accomplish both of our objectives."

A few months ago, John Otterstedt accepted for Gruman Aerospace a plaque and citation from the Op Shop that honored the Sterling facility for its outstanding efforts on behalf of the mentally retarded. Grumman Aerospace was also saluted as "Employer of the Year" in the Sterling-Fairfax area and nominated for further national honors to the National Association for Retarded Children.

So what happened "almost by accident" has developed into a productive working relationship. "These young people have gained the respect of everyone in the plant. And I want to emphasize that without the wonderful cooperation of our supervisors and our people at Sterling, this program could not have been successful. I feel that we've all made giant strides in the past year."



Teamwork. Leadman Glenn Barnhart (L) watches as Ricky Harris sets cutter in tool holder at Plant 58.

Announce Pinehurst, varsity tennis tryouts

GAA has announced that the first Mixed Pinehurst for 1974 is slated for Wednesday, June 19, at Bethpage State Park. The greens fee, $5 apiece, will include kickers prizes. Tee off time is scheduled from 4:30 to 5:30 p.m.

In Pinehurst play, both team members tee off, play each other's drive on the second shot, and then select the better positioned ball for the third shot. From that point they play alternate shots until they hole out a putt.

Winners in the Pinehurst will be determined by low net—actual score less handicap. Kickers prizes will be available for drawing for teams that finish between 30-39 after subtracting handicaps from actual scores for the nine holes.

Mike Cherry, who is managing the tourney, suggests signing up as teams at GAA, Plant 30; if there should be individuals who can't find a teammate, call Mike on Ext. 2133 or 2269.

Anyone interested in playing on the Grumman varsity tennis team should contact Chet Baumgartner of GAA on Ext. 2133 or 2269. Tryouts will be held on May 21 and May 28 from 5 to 7 p.m. The courts will be announced. Stop by at the GAA office in Plant 30 or call for more information.

OBITUARIES

LEON J. FLOWERS of Jigs and Details, Plant 2 died May 1 at the age of 57. He had been with Grumman Aerospace since January 7 of this year and lived in Oyster Bay.

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(Continued from page 6)

four other engineers, 10 technicians, two quality control inspectors and one production control supervisor. Mastaglio, who has been with Grumman since 1968, is a native New Yorker, worked in San Diego since 1962 for General Dynamics, joined Grumman in New York, then transferred back to the West Coast in 1969.

There are two distinct groups in the avionics area:

- the development area, which consists of all Grumman employees who Mastaglio describes as troubleshooters for the avionics equipment.
- the VAST area staffed primarily with Navy personnel and some Grumman technical representatives, such as John Griffing and Rich Sperling.

Mastaglio's group has set up six different avionics systems as development test sets for the Navy. The Versatile Avionics Systems Test (VAST) station, for example, will go aboard the USS Enterprise this year where it will be used to identify problems with the avionics systems down to the component level. "We isolate failures in the systems here," says Mastaglio, "then turn the repair work over to the Navy. When a component in a black box must be changed, for example, we identify it then turn it over to the Navy's microminiature repair crew to do the work."

Once the Tomcats are aboard the USS Enterprise, at least as far as the maintenance crews are concerned, the work will continue in much the same way as it does at Miramar except that it will be done in less space and without some of the "comforts of home." "Actually, from the standpoint of personnel management, maintenance work at sea is less complicated," says Lcdr. "Moon" Mullins, the VF-1 maintenance officer. "We can have two 12-hour shifts and don't have to worry about people wanting to take time off for leave or to play golf."

On board ship, the squadrons will be equipped to repair just about anything except major structural damage to the aircraft. "We won't have room on the carrier for a large inventory of spare parts," says Mullins, "nor can we pick up a phone and order parts from a warehouse. We have to work with what we have on board and keep the planes ready for a rigorous flying schedule."

When the first F-14 squadrons deploy, the Grumman field service work at Miramar will continue as new squadrons come on board for training, even though Frank Riley points out that the "name of the game is to work ourselves out of a job." "That's the ideal with almost every aircraft program," he explains. "It rarely works out exactly as you plan it, but as we transfer parts and information over to the customer, we should eventually reach a point at which time our work will be completed."

Looking at Miramar, and the nearby San Diego area whose resort-like physical features attract more tourists than technicians, it is difficult to visualize the hardworking, hectic pace of the day-to-day operations here. Come fall, though, all eyes will turn seaward when — for the first time over an extended period of time—the Tomcat's performance on the Enterprise will serve as the culmination of many years of dedicated preparation.

No one doubts that the F-14 will live up to its expectations at sea. In fact, confidence is so high that the initial squadrons, VF-1 and VF-2, are already regarded as successes and much of the talk around Miramar today is focused on the future squadrons— like VF-14 and VF-32—which actually signal the start of a long and happy partnership for the Navy and the Tomcat.

"We've had a progressive and productive association with the Navy here," says Riley, "and with what we have accomplished so far, we like to think that we have already had a very successful fleet introduction."

Kallansrude rolls 637 to snap Century Mixed series mark

It's apparent that Bill Kallansrude doesn't believe in sharing the wealth . . . at least not on the bowling alleys. A couple of weeks ago in the Century Mixed circuit, Bill tied together games of 218, 216, and 203 to finish at 637—and with that total pocketed the men's high series mark. Kallansrude also holds the high game record of 247, and with the season winding down in a hurry, if anyone hopes to break his tightfisted grip on those records, they'd better hurry. But don't count on Bill for any help. . . . Mike Viafora didn't come close with his 221-559 but he did help to keep the Impossible Dream at the top of the standings. But who's trailing, a mere three points behind the leaders? The DeKals (Kals for Kallansrudes), of course! . . . Other highlights included Toni Guilano's 498 and Grace Frazer's 195.

Tom Cava fell only six pins short of breaking the series mark in the Hawkeye Mixed league recently but he didn't seem to mind. After all, when you own the present mark of 641 little things like that don't shake you. Tom flipped games of 214 and 238 in that assault. Arlene Schwemmer clicked for 228-581, with her high game clipping Rita Goshefski's own record by two sticks, and Lee Newcombe registered 188-518. . . . In the Bethpage Owl league, Marty Susa reached 629 on 211 and 220, Rudy Dunkley racked up 202 and 201, and Peggy Kolody used a 203 to finish at 549. . . . a high for the ladies.

No matter how many times they change their name, the results are usually the same for the Right Ons. A couple of years ago they called themselves the Captain and His (Her?) Crew. But when Joan Burgess throws a 229-611, both women's records in the Patchogue Mixed loop, is it any wonder the team—no matter what they call themselves—continues to dominate play in the league. Among the other bright spots in the listing were Jim Scanlon's 228-573, Gene Burgess' 215-596, and Dick Lindstrom's 216-591. Break up the Captain and His Crew. . . . er, the Right Ons! . . . Clem Anton's 243-222-823 and John Betterino's 259-821 looked pretty good for the evening's scoring honors in a recent session of the Masters loop until Bruce Foster closed with 219—he had a 226 and 252 earlier—for an 872 total.

Rounding out the highlights in GAA sanctioned kegling were: RED - Ted Martines, 243-22-633; John Strakosch, 213-579; Bill Hettinger, 221-566. . . . OUTPOST - Bud Earhart, 214-605; Vin Mancino, 213-592; Frank Magri, 211-579; Joe Forde, 220-568; Tony Bezas, 205-565. . . . BLACK - Rich Bloomer, 224-570; Vin McAvoy, 203-552; Fred Wagnhauser, 223-592; George Reuther, 222-591; Phil Fey, 247-584. . . . WOODBURY MIXED - Shirley Schiavetta, 182-524; Frank Prochaska, 211; Bill Lawson, 564; John Mayer, 560; Carol Bassano, 182. . . . AEROSPACE - Sal Volpe, 211-593; Tom O'Connor, 223-591; John Dudonis, 214-589; George Lomot, 570; Miael Juppe, 210-567.

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Greyhound vet. Late last month, Grumman Field Service rep Walt Schnaderbeck (R) and Capt. Joe Adkins, skipper of VRC-50, saluted Sam Weaver, ADJ-1, for attaining over 1000 flight hours in the C-2A Greyhound. Weaver, who's based at Naval Air Station, Cubi Point, Philippines, and is on his second tour with the squadron, first flew in the C-2A on March 3, 1969, and reached the 1000-hour mark on December 13, 1973. The C-2A delivers high-priority cargo and personnel from land bases to carriers operating at sea.

GRUMMAN, May 13, 1974

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